JOB DEMANDS ANALYSIS

Company: City of Burnaby **Location:** Paint Shop

Job Title: Signs & Markings Installer 3 /Tradesman Painter **Classification:** Regular Duty

Purpose of Activities

The Signs and Markings Installer 3/Tradesman Painter is responsible for the installation and maintenance of signs and the layout, installation and marking of pavement with various materials and equipment. The Signs and Markings Installer 3/Tradesman Painter supervises Signs and Marking Installers 1's and 2's.

Tools and Equipment

The Signs and Markings Installer 3/Tradesman Painter will use the following tools and equipment to perform his duties:

- Half-ton pick up truck with power tailgate (unadjustable seat on power tail gate)
- Centre Line Truck – single axle three ton truck with air brakes, power steering, includes centre line paint gun, glass bead gun, air regulators, etc.
- Thermo-Plastic Truck – single axle three ton truck with air brakes, power steering, Thermo-Plastic Cooker on deck of truck (1.5 m to deck, side ladder access)
- Portable liner
- Thermo-Plastic applicators (hand push cart)
- Pavement eradicators (hand push cart)
- Bituminous tar applicators (hand push cart)
- Hand tools – wrenches, screw drivers, hammers, pliers, shovels, bars, drills, saws, sockets,
- Power tools – jack hammer 42-kg, (air and electric), concrete corer, cut off saw
- Traffic control – traffic cones, barricade signs
- Step and extension ladders

Usual Methods

Sign Making (Shop Work)

1. Receive work order from Foreman.
2. Gather materials (sign, paint for screening, decals, etc.) for the sign.
3. Layout material on work bench, screening machine, etc.
4. Make the sign.
5. Set the sign in the storage rack for drying.
6. Repeat steps 3-5 until al signs are made.
7. Signs are made, as they are required

Sign Installation/Sign Cleaning

1. Receive work order from the Foreman.
2. Load signs and sign posts, tools and equipment into the half-ton truck.
3. Drive to work location.
4. Set up traffic control if required (signs, barricades).
5. Unload required tools, equipment from truck.
6. Dig hole for signpost sleeve if required. Use jackhammer, concrete corer, pick and/or shovel as required. Insert signpost sleeve into hole, plumb the signpost, sleeve, mix cement and pour the cement into the hole. Let this set overnight if required.
7. Attach sign post to the signpost sleeve with power tools and set screw.
8. Use a ladder to reach the top of the signpost. Clean the sing by hand or pressure washer. may use bucket truck.
9. Use power and hand tools to attach the sign to the signpost.
10. Clean up the work site and return tools, equipment and excess material to the half-ton truck.
11. Drive to next installation location.
12. Repeat steps for sign and sign post installation.

Pavement Marking

Centre Line Truck (Driver and Gun Carriage Operator)

Marking pavement with the Centre Line Truck requires two Sign and Marking Installer 3/Tradesman Painter's. One drives the Centre Line Truck while the other operates the paint gun carriage at the back of the Centre Line Truck. There are other Signs and Markings Installer 1 and 2's required to drop traffic cones, drive the pick-up truck and to pick up the traffic cones after the paint dries. See Signs and Marking Installer 1 and 2 Job Demands Analysis for further description of their duties and tasks. The crew will load five 200-litre paint drums on the Centre Line Truck with a forklift and then secure the drums to the truck with straps. Bags of glass bead (23-kg) are loaded to the tuck and poured into the glass bead tank as required throughout the day.

Driver

1. Perform Pre-Trip Inspection on the Centre Line Truck.
2. Drive to the starting point of the pavement marking.
3. Use left arm to release pavement-marking guide from the travelling position (21-kg of force required to raise and lower the pavement-marking guide from a seated position).
4. Driver and Gun Carriage Operator communicate with a headset and/or hand signals.
5. Drive Centre Line Truck over route requiring pavement markings.
6. Use left arm to lift pavement marking guide off pavement to prevent it from snagging (breaking), getting run over at an intersection or by on coming traffic.
7. Pull up pavement marking guide and lock in travelling position when moving to a new location.
8. Repeat steps 3-7 at new location.

Gun Carriage Operator

1. Climb up to gun carriage controls and seat on the back of the Centre Line Truck deck (1.5 metres from the ground).

2. Sit in unadjustable seat. Drive to starting location of pavement marking.
3. Sit in seat, lean left elbow on armrest, laterally flex and rotate spine to the left. Cervical spine is extended.
4. Use right arm (shoulder flexion, extension and abduction; elbow flexion and extension; wrist flexion, extension and circumduction) to operate gun carriage controls to paint centre line on road.
5. Repeat steps 3 and 4 for the remainder of the day.

Thermo-Plastic Truck and Applicators for Crosswalk Installation

Two Signs and Marking Installer 3/Tradesman Painter's are required for this task. One stays with the Thermo-Plastic Truck and hopper at all times while the other operates the Thermo-Plastic Applicator. There are Signs and Marking Installer 1and 2's assisting with this tasks as well. See Job Demands Analysis specific to those positions for further details.

1. Signs and Marking Installers 1,2 and 3's will use a ball-peen hammer to break up the 23-kg blocks of thermo-plastic.
2. Place broken block of thermo-plastic into 20-litre pails (23-kg) for easy transport and access.
3. Repeat steps 1 and 2 until surplus thermo-plastic is available.
4. Start Thermo-Plastic Cooker four hours prior to use.
5. Load 20-litre pails of thermo-plastic onto Thermo-Plastic Truck. Open hopper to Thermo-Plastic Cooker and dump 20-litre pails into both sides of the hopper. Hoppers hold 63 to 136 kilograms of thermo-plastic. Let the thermo-plastic melt (220 degrees Celsius).
6. Load remaining 20-litre pails onto the truck deck for later use.
7. Drive to work site.
8. Set up traffic control to block crosswalk from pedestrian and vehicle traffic.
9. Unload Thermo-Plastic Applicator from trailer on half-ton truck.
10. Start the propane burner on the Thermo-Plastic Applicator.
11. Push the Thermo-Plastic Applicator by hand to the back of the Thermo-Plastic Truck.
12. Open the hopper chute on the back of the Thermo-Plastics Truck to load the thermo-plastic into the Thermo-Plastic Applicator.
13. Push the Thermo-Plastic Applicator to the crosswalk. Operate the hand controls to lay out the thermo-plastic on the crosswalk.
14. Push the Thermo-Plastic Applicator to the next three crosswalks in the same intersection and repeat steps 11- 13.
15. Load Thermo-Plastic Applicator back onto trailer.
16. Drive to the next intersection or crosswalk.
17. Six to eight intersections with four crosswalks each can be completed per shift.

Stimsonite Application (raised pavement markers/cat eyes) – two week per year

1. Light propane burner on tar pot. Load the tar pot with 4-kg blocks of solid tar. Let the tar melt (180 degrees Celsius).
2. Drive to location.
3. Unload tar pot from half-ton truck.
4. Two buffer vehicles (front and rear) are used to protect two crew members from on coming traffic.
5. One crew pushes the tar pot along the road and spreads molten tar dollops every 24 metres.

6. The second crew member walks behind carrying a 20-litre pail full of cat eyes. He will grasp a cat eye, bend/stoop and place the cat eye in the molten tar and then step on the cat eye to set it in the molten tar.
7. Repeat steps 5 and 6 (800 cat eyes can be placed in a day. The crew will rotate between the buffer vehicles, tar pot and placing the cat eyes.

Stimsonite Removal

1. Two buffer vehicles (front and rear) are used to protect two crew members from on coming traffic.
2. One crew member will use a long handled chisel and 2-kg hammer to break the damaged cat eye from the tar.
3. The second crew member will come behind the first, pick up the broken pieces and place them in a 20-litre pail. The pail is emptied into the back of a buffer vehicle for disposal at a later time.
4. Repeat steps until damaged cat eyes have been removed.

The presence of ** indicates non-value added tasks. These are tasks that do not contribute to the stated purpose of the work.

Administrative Issues

The Signs and Markings Installer 3/Tradesman Painter works from 0700 to 1530 Monday to Friday with a ten-minute rest period in the morning, a 30-minute lunch break and a ten-minute rest period in the afternoon. The Signs and Markings Installer 3/Tradesman Painter will work alternate shifts that accommodate traffic patterns and volumes. These alternate shifts may occur anytime throughout the day (day, evening or night). Overtime may also be required in this position either by extending the day or coming in on a scheduled day off. There are a combination of four full-time and four auxiliary Signs and Markings Installers 1's, 2's and 3's in this work area.

Activity Demand Variables

These variables are tasks that must be carried out by the employee and are implicitly or explicitly required as objectives of the job.

- Sit to drive the Centre Line Truck, Thermo-Plastic Truck and half-ton truck
- Sit on the back of the Centre Line Truck behind rear wheels on left on top of truck deck (1.5 m from ground), unadjustable chair, spine is laterally flexed and rotated to the left, cervical spine is extended
- Paint gun carriage controlled with right upper extremity
- Left elbow and shoulder compression sitting at gun carriage on the Centre Line Truck
- Work in low to high volume traffic during the day, evening or at night (exposed to catastrophic injuries in the event of a motor vehicle collision)
- Walk on road to mark pavement for marking
- Stand on road to mark pavement for marking
- Climb up and down 1.5 metre high truck deck (Centre Line Truck) to seat at gun carriage
- Bend and stoop to set or pick up Stimsonite on pavement
- Climb a ladder for sign installation/cleaning
- Bend, stoop, crouch for sign installation

- Use a jackhammer, concrete corer, power and hand tools for sign installation
- Fine finger manipulation tasks to make and install signs

Worker Decision Variables

These variables are the sub-routines and cognitive/physical decisions made by the worker in carrying out the objectives of the job.

- Body positioning technique during some tasks
- Lifting and carrying techniques for some tasks
- Task organization

Accommodative Considerations

1. People with injuries to the spine, in any region, may have difficulty with the static seated postures required on the Centre Line Truck and Thermo-Plastic Truck; and the dynamic spinal movements required during pavement marking and sign maintenance and installation.
2. People with shoulder injuries such as rotator cuff tendonitis, bursitis and instability may have difficulty with static loading and reaching required on the Centre Line Truck (driver and painter). These same injuries will also make it difficult for sign maintenance and installation.
3. People with forearm and elbow injuries such as tennis elbow may have difficulty with the repeated static grip forces required to operate the Centre Line Paint gun, the guide on the Centre Line Truck and the tool use required during sign maintenance and installation.
4. People with nerve compression injuries in the upper extremities may have difficulty with the repeated and prolonged shoulder flexion activities required to drive the Centre Line Truck or to paint lines with the Centre Line Truck.
5. People with lower extremity injuries may have difficulty climbing in and out and on and off the Centre Line Truck cab and deck respectively and any walking on pavement when performing road-marking tasks.
6. Post-whiplash and other neck problems may have difficulty with this position.
7. Individuals who do not cope in open low-autonomy work environments would have difficulty with this position.
8. Painting Apprenticeship is desired.
9. Must have Air Brake Endorsement for Class Five Driver's License.
10. Must have completed Signs and Markings Minimum Level 1 (IMSA Standard).

Prepared By: Jeffrey J. McGinn, Kinesiologist June 8, 1999

Summary of Stresses

Metabolic Stresses

The aerobic energy systems will supply the major source of energy while performing the duties and responsibilities of the Signs and Markings Installer 3/Tradesman Painter. This energy system will be required to maintain the low to moderate energy requirement necessary for driving and operating the Centre Line and Thermo-Plastic Trucks and other road marking equipment and sign maintenance and installation. Performing tasks and duties using poor posture or technique will decrease the metabolic demand required throughout the shift but these postures and techniques will increase the structural stress to the spine and upper and lower extremities. The layout and design of the existing Centre Line Truck require the Signs and Markings Installer 3/tradesman Painter to adopt high injury risk postures.

Structural Stresses

Spine –Significant loading of the spinal structures are likely in this position. Prolonged loaded and unloaded forward flexion, lateral flexion and rotation of the spine to the left is required to operate the gun carriage on the Centre Line Truck. Driving the Centre Line Truck also exposes the Signs and Markings Installer 3/Tradesman Painter to forward and lateral flexion with right and left rotation. These postures require no activity from the torso musculature, but increase asymmetrical disc compression and passive stretch on the posterior spinal ligaments and disc fibres. This can contribute to disc integrity problems as well as decondition the torso support musculature. Road marking and sign maintenance and installation will also require these same positions and postures. Lateral flexion and/or rotation with or without forward flexion (loaded or unloaded) will significantly increase the shear forces encountered by the discs, fibres and spinal ligaments.

The seats on the Centre Line (driver and operator) and Thermo-Plastic (driver) Trucks are not adjustable and may bottom out in certain instances. This will increase the risk of asymmetrical spinal compression on the discs, fibres and ligaments.

Neck –Significant and prolonged static and dynamic flexion, extension and rotation when driving and operating the Centre Line Truck and other road marking equipment will significantly increase the risk of injury to this structure. The upper trapezius and scalene muscles will be required to maintain a significant and constant load.

Shoulders and Upper Extremity– Driving the Centre Line and Thermo-Plastic Trucks, operating the road marking equipment and sign maintenance and installation require prolonged and repeated static and dynamic movements from below to above shoulder height. The static and dynamic movements through the shoulder and upper extremity often require the rotator cuff muscle groups, upper trapezius and scalene muscles of the neck to maintain a constant and significant load. Operating the road marking equipment and tool use for sign maintenance and installation will increase the static and dynamic loading of the forearm flexors, extensors, supinator, pronator teres and the pronator quadratus. These same pieces of equipment will also increase the vibration and compressive forces from the grip to the elbow and shoulder that may lead to over use tendon or nerve injuries. Impingement and inflammatory injuries to the shoulders are likely due to the prolonged static

arm position (flexed and abducted shoulder and elbow) required during prepping and painting.

The above positions (cervical extension, thoracic kyphosis, anterior shoulder positioning) will weaken the shoulder girdle support structure and increase the risk of injury to this area. Rotator cuff and biceps tendon tendonitis are likely as the muscle of the upper back and shoulder weaken through prolonged use.

The left elbow of the Gun Carriage Operator on the Centre Line Truck is placed on an armrest so the Signs and Markings Installer 3/Tradesman Painter can lean over the edge of the truck deck to monitor the pavement marking. Repeated and prolonged time in this position will significantly increase the compressive forces on the bursa sac of the elbow (inflammation) and jam the head of the humerus into the acetabulum at the shoulder.

Hips and Lower Extremities – Standing and walking on concrete and asphalt for the entire shift increase the compressive forces through the ankles, knee, hips and spine. Climbing up and down ladders and on and off the trucks will tax the knee, hip and ankle flexors and extensors. Prolonged sitting (Centre Line Truck use) is likely to shorten the hamstring muscle group of both legs for the driver and operator. This in turn will pull the pelvis under the body and prevent the Signs and Markings Installer 3/Tradesman Painter from sitting on the sit bones (Ischeal Tuberosity) and promote the undesirable forward flexed spinal posture.

Motor Vehicle Accident – The Signs and Markings Installer 3/Tradesman Painter is at significant risk for catastrophic injury on the Centre Line Truck. He sits on top of the truck deck completely unprotected or unrestrained. Also, during road marking layout and Stimsonite (raised pavement markings, cat eyes) placement, the Signs and Markings Installer 3/Tradesman Painter is walking in the middle of the road and exposed to vehicle traffic. Traffic control is used but it is not always effective.

Burn – The Signs and Markings Installer 3/Tradesman Painter is exposed to molten tar (180 degrees Celsius) and crosswalk thermo-plastic (220 degrees Celsius) on a regular basis. Protective clothing and equipment are worn, but the risk of a burn is still present.

INTERVENTIONS

Recommendations that could be implemented to increase productivity and lessen the risk of injury are listed below:

1. Teach postural awareness that will focus on the importance of proper body posture (seated and standing) and how it relates to the Sign and Markings Installer 3/Tradesman Painter's ultimate physical comfort and fatigue level.
2. Encourage the Sign and Markings Installer 3/Tradesman Painter to maintain an increased level of fitness away from work that will focus on cardiovascular endurance, muscular strength, muscular endurance and flexibility. Particular attention should be paid to strengthen the shoulder complex and upper back.
3. Install fully adjustable air-ride seats in the Centre Line Truck for the driver and gun carriage operator (truck cab and paint deck).
4. Provide a sit/stand option for the Centre Line Painter on the truck deck. This will allow the Signs and Markings Installer 3/Tradesman Painter to change positions often

throughout the day, which will decrease the static structural stress and increase blood flow in the body.

5. Provide an enclosed air-conditioned cab for the Centre Line Painter. The enclosed cab will keep the individual out of the elements and will decrease the exposure to vehicle traffic.
6. Re-design the Centre Line Paint area on the Centre Line Truck to allow the Signs and Markings Installer 3/Tradesman Painter the ability to adopt neutral postures through the cervical thoracic and lumbar spine, shoulders, elbows and wrists from a sitting or standing posture. There are new Centre Line Trucks on the market that have these features.
7. Purchase a headset that will allow the driver and operator of the Centre Line Truck to communicate effectively with no static, electrical interference or wind noise.
8. Re-design the pavement marking guide on the Centre Line Truck so that the driver is not required to pull, hold and release (left shoulder and elbow flexion and extension) from seated position, the 20-kg pavement marking guide on a continual basis when road marking with the Centre Line Truck. Presently the driver pulls a rope to raise and lower the guide bar. The guide bar is lowered and raised frequently so that it does not get snagged in the road, at intersections and so oncoming traffic does not run it over.

Referral: Lana Ho		Organization: City of Burnaby							Title:Signs & Markings Installer 3-Tradesman Painter
Dept.: Engineering		Division: Traffic							Contact: Greg Kenward
				FREQUENCY*					Date: April 29, 1999
	PHYSICAL DEMANDS	REQD	SIDE	Sel 1	Low 2	Mod 3	High 4	Max. Weight (kg)	Usual Weight (kg)	COMMENTS
STRENGTH	Lifting - Floor to Knuckle	X	B		X			41	<1-6	tools, equipment, glass bead, tar, thermo-plastic
	Lifting - Knuckle to Waist	X	B			X		41	<1-6	tools, equipment, glass bead, tar, thermo-plastic
	Lifting - Waist to Shoulder	X	B		X			23	<1-6	tools, equipment, glass bead, tar, thermo-plastic
	Lifting - Over Head	X	B		X			23	<1-6	tools, equipment, glass bead, tar, thermo-plastic
	Carrying - With Handles	X	E			X		41	<1-6	jackhammer, 20-L pail, tools
	Carrying - Without Handles	X	B				X	23	<1-6	tools, boxes of tar, thermo-plastic,
	Pushing - Upper Extremity	X	B				X	23	<1-6	applicator carts, tools, equipment on/off trucks
	Pushing - Hip/Leg Assist	X	B			X		41	<1-6	applicator carts, sign maintenance/installation
	Pulling - Upper Extremity	X	L				X	23	<1-6	pavement marking guide on Centre Line Truck
	Pulling - Hip/Leg Assist	X	B			X		41	<1-6	glass bead bags, tools, equipment on trucks
	Reach - Shoulder or Above	X	B			X		23	<1-6	lift tools, equipment to truck, sign posts
	Reach - Sho. or Above extnd	X	B	X				23	<1-6	lift tools, equipment to truck, sign posts
	Reach - Below Shoulder	X	B				X	41	<1-6	pavement marking, sign maintenance/installation
	Reach - Bel. Shoulder extnd	X	B			X		41	<1-6	glass beads, 20-L pails, thermo-plastic, tar
	Handling	X	B				X	41	<1-6	tools, equip., signs, pavement marking material
	Gripping	X	B				X	40	<1-6	pavement marking guide,paint controls,tools
	Fine Finger Movements							max.	low	sign making, maintenance, installation
ENRG	Aerobic (percent)	X					95	pavement marking and sign maintenance and installation		
	Anaerobic (percent)			neg.				possible heavy lift, fatigue at end of day		
	High Energy Expenditure									
	Low Energy Expenditure	X					X	pavement marking and sign installation/maintenance		
POSTURE	Neck - Static Flexion	X					X	work below shoulders mark pavement, sign maint./installation		
	Neck - Static Neutral	X					X	walk, stand at work site, in shop, drive trucks		
	Neck - Static Extension	X					X	operate gun carriage on Centre Line Truck, sign maint./installation		
	Neck - Rotation	X	L				X	drive operate pavement marking trucks/equip., sign installation		
	Throwing									
	Sitting	X					X	drive/operate Centre Line/Thermo-Plastic Truck		
	Standing	X					X	pavement marking, sign making, sign maintenance and installation		
	Walking	X				X		pavement marking and sign maintenance and installation		
+MOBILITY	Running/Jumping									
	Climbing - Arms and Legs	X			X			ladders, on/off trucks		
	Climbing - Legs Only	X			X			ladders, hills on pavement stairs		
	Bending/Stooping	X					X	pavement marking, sign maintenance and installation		
	Crouching	X			X			gun carriage maintenance, sign installation and maintenance		
	Kneeling	X		X				gun carriage maintenance, sign installation and maintenance		
	Crawling									
	Twisting	X	E				X	Centre Line Marking, sign maintenance and installation		
	Balancing	X				X		ladders, edge of truck, in seat on Centre Line Truck		
GEN	Traveling	X					X	pavement marking, signs maintenance and installation		
	Work Alone	X		X				when making signs in the shop		
	Interact with Public	X					X	drive in traffic, possible installing signs		
	Operate Equip/Machinery	X					X	Centre Line/Thermo-Plastic Trucks and applicators, power tools		
	Irregular/Extended Hours	X		X				0700-1530, Mon to Fri, OT day, evening, night shift		

* Frequency Legend 1 = Seldom; Not Daily 2 = Low Daily Activity; < 1hr
3 = Moderate Demand; Repetition 1 - 3 hrs daily 4 = High Frequency Demand; Repetition > 3 hrs daily

The following shading denotes a HIGH RISK TASK: Modifications should be considered

REQD is marked with an X if the particular demand or category is relevant to the purpose of the job.

SIDE refers to the side or limb required to execute a task. If it is marked **E**, it indicates either side, the most common choice is listed first. **D** refers to dominant and **B** to both sides.

Referral:		Organization:						Title: see 1st page header
Dept.:		Division:						Contact:
				FREQUENCY*				Date:
	PHYSICAL DEMANDS	REQD	SIDE	Sel. 1	Low 2	Mod. 3	High 4	COMMENTS
PERCEPTION	Hearing - Conversations	X					X	co-workers, supervisor, public
	Hearing - Other Sounds	X					X	traffic, power tools and equipment, head set
	Vision - Far	X					X	pavement marking and sign maintenance and installation
	Vision - Near							
	Vision - Colour	X		X				pavement marking, make signs
	Vision - Depth	X					X	pavement marking and sign maintenance and installation
	Perception - Spatial	X					X	pavement marking and sign maintenance and installation
	Perception - Form							
	Feeling (Tactile)	X					X	operate paint/pavement marking applicators, hand/power tool use
	Reading	X			X			work reports, work requests
	Writing	X			X			work reports
	Speech	X					X	with co-workers, supervisor, public
WORK ENVIRONMENT	Inside Work	X		X				make signs in shop, drive trucks
	Outside Work	X					X	pavement marking and sign installation
	Hot Conditions >25 deg. C	X		X				possibly in spring, summer or fall
	Cold Conditions <10 deg.C	X		X				possibly in fall, winter or spring
	Humid	X		X				wet weather conditions
	Dust	X		X				glass beads, dust at work site
	Vapor Fumes	X				X		paint, tar, solvents
	Hazardous Machines	X					X	Centre Line/Thermo-Plastic Trucks, applicators, power tools
	Proximity to Moving Object	X					X	stand in traffic, ride on Centre Line Truck in traffic
	Noise	X					X	trucks, traffic, power tools, applicators
	Electrical Hazard	X		X				possibly overhead or underground services
	Sharp Tools	X				X		shovels, utility knife, scrapers, jackhammer, concrete corer, saws
	Radiant/Thermal Energy	X		X				molten tar 180deg. C., thermo-plastic 220 deg. C., sun
	Slippery Conditions	X		X				wet pavement, grass, gravel mud installing signs
	Vibration and Related	X					X	hand, power tools, riding on Centre Line Truck, removing cat eyes
	Chemical Irritants	X					X	thermo-plastic, bituminous tar, paints, solvents
	Organic Substances	X		X				dog feces, urine around signs posts
	Medical Waste							
	Blood Products							
	Congested Worksite	X				X		in traffic, pavement marking, sign installation, on Centre Line Truck
	Lighting - Direct	X					X	day light, sun light
	Lighting - Indirect	X					X	day light, sun light
	Lighting - Adjustable							
	Lighting - Fluorescent	X			X			overhead lights in shop
	Lighting - Incandescent	X			X			possibly in shop
	Lighting - Shadows etc.	X		X				monitor centre line sprayer over edge of truck

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For detailed descriptions of each of the different categories, please refer to the reference guide or inquire with Human Effort at 1-888-4EFFORT